



United States Department of Agriculture

Research, Education and Economics
Agricultural Research Service

April 3, 2006

Jack Nelson
Area Procurement Office
Agricultural Research Service
800 Buchanan Street
Albany, CA 94710

RE: Final Phase I Environmental Site Assessment Self-Certification for ARS Facilities at
4331 and 4135 East Broadway Road Phoenix, AZ 85040-8807

Mr. Nelson,

Attached please find an electronic copy of the Final Phase I Environmental Site Assessment Report for the Agricultural Research Service Facilities located at 4331 and 4135 East Broadway Road Phoenix, AZ 85040-8807. This final report was prepared by Innovative Technical Solution, Inc. and is dated January 9, 2004, which is adequate time for this type of task.

The purpose of this letter is to certify that no recognized environmental impacts existed, or incidents reported that would effect environmental conditions since the release of the report, until the facilities were closed.

Should you need any additional information please do not hesitate to contact me.

Sincerely,

Alvin Humphrey, Sr.
Area Safety, Health and Environmental Manager
Agricultural Research Service
800 Buchanan Street
Albany, CA 94605

Encl.

025

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Final
Phase I Environmental Site Assessment
U.S. Department of Agriculture
Agricultural Research Service Facilities
4331 and 4135 East Broadway Road
Phoenix, Arizona



Submitted to:

United States Department of Agriculture
Agricultural Research Service
4317 East Broadway Road
Phoenix, Arizona 85040

Submitted by:
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January 9, 2004

ITSI Job No. 03-190.01

Mr. Terry Steele
United States Department of Agriculture
Agricultural Research Service
4317 East Broadway Road
Phoenix, Arizona 85040

**Re: Final Phase I Environmental Site Assessment
U.S. Department of Agriculture
Agricultural Research Service Facilities
4331 and 4135 East Broadway Road
Phoenix, Arizona**

Dear Mr. Steele:

In accordance with your Authorization to Proceed dated September 9, 2003, Innovative Technical Solutions, Inc. (ITSI) is pleased to provide the enclosed final report based on our completion of a Phase I Environmental Site Assessment at the above referenced locations (the Property). This report is based on our review of available records, visual observation of the surface of the Property and adjoining properties, and personal interviews with available persons having knowledge of the Property.

If you need any additional information, please call us at (480) 706-6488.

Respectfully submitted,

Innovative Technical Solutions, Inc.

Lawrence E. Phillips, R.G.
Senior Project Manager

Enclosures

**Final
Phase I Environmental Site Assessment
U.S. Department of Agriculture
Agricultural Research Service Facilities
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Phoenix, Arizona**

Submitted to:

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Agricultural Research Service
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Phoenix, Arizona 85040

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Phoenix, Arizona 85040

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960 West Elliot Road, Suite 108
Tempe, Arizona 85284

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Lawrence E. Phillips, R.G.
Senior Project Manager

Frank Van Alstine, R.E.M.
Project Manager

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EXECUTIVE SUMMARY

Innovative Technical Solutions, Inc. (ITSI) has performed a Phase I Environmental Site Assessment (ESA) of the United States Water Conservation Laboratory located at 4331 East Broadway Road (**Property 4331**), and the Western Cotton Research Laboratory located at 4135 East Broadway Road (**Property 4135**) in Phoenix, Arizona. In addition to these properties, the Animal and Plant Health Inspection Service (APHIS) facility located at 4125 East Broadway Road (**Property 4125**), in Phoenix, Arizona was added as part of the Scope of Services on October 27, 2003. The Phase I ESA was conducted in general accordance with the scope and limitations of the American Society for Testing and Materials (ASTM) Standard Practice E 1527-00 and the United States Department of Agriculture (USDA), Agricultural Research Services (ARS), Scope of Services provided in the Notice to Proceed dated September 9, 2003.

Property 4331 was established to develop methods to conserve surface water and groundwater used for agriculture. **Property 4135** is currently involved in the study of cotton production and cotton pest management. **Property 4125**, the APHIS facility, conducted research on the pink bollworm, a pest to cotton plants, and was involved in rearing activities. **Property 4331** and **Property 4135** each have a small agricultural research field for irrigation experiments and plant research. Chemicals including herbicides and fertilizers may have been applied to the fields during research activities.

At the time of ITSI's assessment, **Property 4331** consisted of 12 buildings, six greenhouses, and a small agricultural research field on approximately 5 acres of land. The Property is rectangular in shape and is oriented north-south along Broadway Road. Driveway entrances are located along the north portion of **Property 4331** from Broadway Road. An asphalt-paved parking lot is located in front of the main building. The front of the main building faces to the north. A small area between Broadway Road and the parking lot is desert landscaped. In addition to the parking lot located in the front, there is an employee parking area located on the east side of the main building. Access to this parking area is through one of two security gates. The second security

gate is located at the northwest corner of the main building for deliveries to the facility. The Property is bounded by a chain-link fence.

Property 4135 consisted of 11 buildings and 23 greenhouses on approximately 7.6 acres of land. The Property is rectangular in shape with a triangular-shaped agricultural research field on the west end of the property. The Property is oriented east-west and is situated approximately 230 feet south of Broadway Road. Driveway entrances are located along the eastern portion of **Property 4135** behind the Arizona Cotton Grower's Association building, located at 4139 East Broadway Road. Access to the property is provided through two security gates. The first gate is the main entrance for general use and employee parking, and the second gate is located approximately 200 feet south along the eastern property boundary and is used for service equipment and deliveries. An asphalt-paved parking lot is located in front of the main building. The front of the main building faces to the north. The Property is bounded by a chain-link fence.

On October 27, 2003, Mr. Terry Steele of the USDA ARS requested that ITSI include the additional tenant facility **Property 4125**, located near the west central portion of **Property 4135**. The tenant, APHIS, occupies three buildings and four mobile trailers along the western portion of **Property 4135** east of the agricultural research field. The main building consists of offices and laboratories. The main building is connected to the City of Phoenix (COP) sanitary sewer system. However, the four mobile trailers and Building 28 with attached maintenance shop are connected to a single septic system located underneath one of the mobile trailers (the exact location is unknown). The trailers, which were used for rearing activities in the past, will be moved offsite when the tenant leaves the property. A small asphalt-paved parking lot is located in front (north) of the main tenant building.

Property 4331 and **Property 4135** are listed as Resource Conservation and Recovery Act (RCRA) conditionally-exempt small-quantity generators (CEGs) of hazardous waste. **Property 4125** is listed as a deactivated generator (DAG) on the RCRA facilities list. ITSI found no record of any violations for **Property 4331**, **Property 4135**, and **Property 4125**. In addition, none of the properties are located within the boundaries of any State or Federal Superfund Sites,

and there are no underground storage tank (UST) or leaking UST (LUST) sites that appear to be a threat to soil or groundwater beneath either of the properties.

Based on ITSI's research conducted during the course of this Phase I ESA, a former area of petroleum-contaminated soil was identified near the southwest corner of **Property 4331**, just north of the fuel storage building. The petroleum-contaminated soils were a result of minor releases from drums of waste oil stored near the fuel storage building. In 1997, Asset Environmental Services, Inc. excavated the contaminated soils and confirmed complete removal of petroleum-contaminated soil. The soil was removed from the site and the excavation backfilled using aggregate base course (ABC).

No specific *de minimis* conditions were identified. However, due to the large quantity of chemicals that are stored on the properties (herbicides, fertilizers, laboratory chemicals, etc.), ITSI recommends that all chemicals be kept in their original containers prior to use and properly stored to prevent any accidental spills. An accurate inventory of chemicals and wastes should be maintained as presented during ITSI's site reconnaissance.

During the site reconnaissance, ITSI observed one water supply well on **Property 4331**. The water supply well originally supplied water to the property. Although the well is no longer used, the Arizona Department of Environmental Quality (ADEQ) collects groundwater samples annually from the former water supply well. Specific details about the annual sampling event were not provided. However, the water supply well did not appear on the Arizona Department of Water Resources (ADWR) Well Report provided by All Lands. ITSI recommends that the water supply well be registered with ADWR, if not already registered.

ITSI was provided with facility maps noting the locations of what are believed to be three dry wells at **Property 4331** and one dry well at **Property 4135**. The locations of the suspected dry wells were verified during the site reconnaissance. The two suspected dry wells located along the western property boundary of **Property 4331** are sealed off to the surface. The dry well to the north is covered with approximately 6 inches of rock and gravel. The dry well to the south is sealed with asphalt. The third suspected dry well is located east of Building 46 and is used to

collect rainwater run off from parking lots and buildings. The suspected dry well on **Property 4135** is located behind Building 3 and is used to collect excess water from the adjacent greenhouses. The suspected dry wells located on both properties have not been registered with the ADEQ. ITSI recommends that if the suspected dry wells meet the ADEQ criteria for dry wells that they be registered with the ADEQ and that they be maintained in accordance with the rules and regulations set forth by ADEQ. There are no additional dry wells registered by the ADEQ for the Properties.

According to client-supplied information, a septic system was originally used at **Property 4331**. Presently, **Property 4331** is connected to the COP sanitary sewer system. The septic system has not been used since the early 1970s. The location of the septic system was identified during the site reconnaissance in the landscaped area in front of the main building. ITSI's review of the original building plans for **Property 4331** regarding the septic system included a septic tank with three cesspools. ITSI recommends that since the septic system is no longer used that it be properly closed and removed and soil samples collected in the vicinity of the tank.

ITSI also recommends that prior to demolition or land transfer the soil in the agricultural fields at **Property 4331** and **Property 4135** be tested for any chemicals including herbicides and fertilizers that may have been applied over the years during research activities.

Although not considered a recognized environmental condition, due to the age of the property buildings, some of the building materials, including the wall board, ceiling tiles, floor tiles, laboratory countertops, pipe insulation and roofing materials, may contain asbestos. Several reports from previous investigations provided by Mr. Steele indicated some areas of asbestos-containing building materials (ACBM) have been removed from **Property 4331**. In ITSI's estimation other areas of ACBM exist at the properties and at present are properly maintained. However, prior to any demolition activities and/or building repair, ITSI recommends that samples be collected for asbestos and that proper management and abatement procedures be used. In addition, due to the age of the buildings, building materials such as wall boards that still have the original paint may also contain lead-based paint. ITSI recommends that a lead-based

paint survey be completed prior to any disturbance of these media and especially before any building demolition.

1.0 INTRODUCTION

This Phase I Environmental Site Assessment (ESA) report was prepared by Innovative Technical Solutions, Inc. (ITSI) for Mr. Terry Steele, Safety and Occupational Health Specialist, of the United States Department of Agriculture (USDA) Agricultural Research Service (ARS). Discussions of the purpose, scope of services, and definitions are presented in the following sections.

The properties assessed in this ESA are the United States Water Conservation Laboratory located at 4331 East Broadway Road (Property 4331), the Western Cotton Research Laboratory located at 4135 East Broadway Road (Property 4135), and the Animal and Plant Health Inspection Service (APHIS) facility located at 4125 East Broadway Road (Property 4125) in Phoenix, Arizona. Property 4331 was established to develop methods to conserve surface water and groundwater used for agriculture. Property 4135 is currently involved in the study of cotton production and cotton pest management. Property 4125, the APHIS facility, conducted research on the pink bollworm, a pest to cotton plants, and was involved in rearing activities. Property 4331 and Property 4135 each have a small agricultural research field for irrigation experiments and plant research. Chemicals including herbicides and fertilizers may have been applied to the fields during research activities.

1.1 PURPOSE

The purpose of this Phase I ESA is to identify, to the extent feasible, recognized environmental conditions as defined by the American Society for Testing and Materials (ASTM) Standard Practice E 1527-00 in connection with past or current uses of the Properties.

1.2 SCOPE OF SERVICES

Project details were provided by Mr. Steele of the USDA to Mr. Lawrence Phillips, R.G. of ITSI on September 7, 2003. ITSI's scope of services consisted of the following activities.

- Review of certain federal and state regulatory agency databases for the Properties and a 1/8- to 1-mile radius around the Properties, as specified by the ASTM E 1527-00 Standard of Practice.

- Identify and briefly describe all Federal and/or State Superfund Sites within 1 mile of the Properties.
- Identify and briefly describe all existing or former landfills within 1/2 mile of the Properties.
- Contact various city or county agencies for environmental information pertaining to the Properties.
- Conduct a site reconnaissance to evaluate current Property conditions and note visual evidence of recognized environmental conditions.
- Conduct a visual reconnaissance of properties within 1/2 mile of the Properties.
- Interview people with significant knowledge of the Properties.
- Identify and list the address and name of the previous owners for a period of 50 years.
- Prepare a report of findings.

This report presents ITSI's field observations, findings and conclusions. These report components meet or exceed the level of care and technical competency currently practiced by environmental professionals within our service area for projects of a similar scope. The summary of findings and conclusions in this report are subject to modification if subsequent information is developed by ITSI or any other party. This report has been prepared in accordance with the limitations presented in Section 11.0.

1.3 DEFINITIONS

For the purpose of this Phase I ESA, the following terms referred to in the report will be defined as follows.

- **Properties** – The United States Water Conservation Laboratory located at 4331 East Broadway Road (Property 4331), the Western Cotton Research Laboratory located at 4135 East Broadway Road (Property 4135), and the APHIS facility located at 4125 East Broadway Road (Property 4125) in Phoenix, Arizona.
- **Project Area** – An approximate 1/2-mile radius around the Properties.
- **Adjoining Properties** – Any real property or properties, the border of which is contiguous with that of the Properties, or that would otherwise be contiguous with the Properties, but for a street, road, or other public thoroughfare separating them.
- **Recognized Environmental Condition** – The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of

harm to public health or the environment and that generally would not be subject to an enforcement action if brought to the attention of appropriate governmental agencies.

- **Historical Recognized Environmental Condition** – An environmental condition that, in the past, would have been considered a recognized environmental condition, but that may or may not be considered a recognized environmental condition currently. If a past release of any hazardous substances or petroleum products has occurred in connection with the property and has been remediated, with such remediation accepted by the responsible regulatory agency, this condition shall be considered an historical recognized environmental condition.
- **Groundwater Flow Direction** – The shallow groundwater (i.e., nearest to the ground surface) flow direction based on topographic maps, surface water conditions in the project area, public documents, and/or interviews with knowledgeable people. ITSI did not make any quantitative assessment of groundwater flow as part of this assessment. Notwithstanding, with regard to subsequent references to upgradient, crossgradient or downgradient locations relative to the Properties, ITSI has assumed a northwestern direction of shallow groundwater flow beneath the project area.
- **Key Site Manager** – The person identified by the owner of the Properties with having good knowledge of the uses and physical characteristics of the Property. For this Phase I ESA, Mr. Terry Steele, Safety and Occupational Health Specialist, USDA, Agricultural Service, was identified as the Key Site Manager.

2.0 PROPERTY INFORMATION/BACKGROUND

The following information was obtained during ITSI's site reconnaissance and from interviews with people knowledgeable about the Properties. Photographs depicting the Properties conditions at the time of ITSI's assessment are presented as Appendix A. ITSI's site reconnaissance was conducted on September 30, 2003 by Ms. Rebekah Weekly and Mr. Frank Van Alstine. Mr. Steele, Key Site Manager and Mr. Kevin Martin, Maintenance Foreman for the USDA ARS facility, were present during the site reconnaissance. Ms. Weekly of ITSI visited Property 4125 on November 12, 2003. Ms. Weekly was accompanied by Mr. Steele, Mr. Martin, and Mr. Henry Stewart, Maintenance Foreman at the APHIS facility.

2.1 LOCATION AND LEGAL DESCRIPTION

Property 4331 is located at 4331 East Broadway Road and Property 4135 is located at 4135 East Broadway Road, Phoenix, Arizona. The assigned Maricopa County Assessors Parcel Numbers (APN) are 123-01-001C and 123-02-001F, respectively. Property 4125 (APHIS) is located at 4125 East Broadway Road, Phoenix, Arizona. Property 4125 is located within the boundaries of Property 4135 and is not assigned a separate Maricopa County APN. Each of the Properties are located in the northwestern quarter of Section 30, Township 1 North, Range 4 East of the Gila and Salt River Baseline and Meridian as shown on the United States Geological Survey (USGS) 7.5-minute series topographic map titled "Tempe, Ariz. Quadrangle." A Project Vicinity Map is presented as Figure 1.

2.2 CURRENT PROPERTY USE AND GENERAL PROPERTY DESCRIPTION

At the time of ITSI's assessment, Property 4331 consisted of 12 buildings, six greenhouses, and a small agricultural research field on the five acres. Property 4135 consisted of 11 buildings, 23 greenhouses, and an agricultural research field on 7.6 acres of land. Property 4125 consisted of one main building, four mobile trailers, and Building 28 with an attached maintenance shop. Property 4125 is located on Property 4135. A Project Location Map is presented as Figure 2.

Property 4331 is rectangular in shape and is oriented north-south along Broadway Road. Driveway entrances are located along the north portion of Property 4331 from Broadway Road.

An asphalt-paved parking lot is located in front of the main building. The front of the main building faces to the north. A small area between Broadway Road and the parking lot is desert landscaped. In addition to the parking lot located in the front, there is an employee parking area located on the east side of the main building. Access to this parking area is through one of two security gates. The second security gate is located at the northwest corner of the main building for deliveries to the facility. The Property is bounded by a chain-link fence.

Property 4135 is rectangular in shape with a triangular-shaped agricultural research field on the west end of the property. The Property is oriented east-west and is situated approximately 230 feet south of Broadway Road. Driveway entrances are located along the eastern portion of Property 4135 behind the Arizona Cotton Grower's Association building, located at 4139 East Broadway Road. Access to the property is provided through two security gates. The first gate is the main entrance for general use and employee parking, and the second gate is located approximately 200 feet south along the eastern property boundary and is used for service equipment and deliveries. An asphalt-paved parking lot is located in front of the main building. The front of the main building faces to the north. The Property is bounded by a chain-link fence.

Property 4125, the APHIS facility, is located along the western portion of Property 4135 east of the agricultural research field. The main building consists of offices and laboratories. The main building is connected to the City of Phoenix (COP) sanitary sewer system. However, the four mobile trailers and Building 28 with the attached maintenance shop are connected to a single septic system located underneath one of the mobile trailers (the exact location is unknown). The trailers, which were used for rearing activities in the past, will be moved offsite when the tenant leaves the property. A small asphalt paved parking lot is located in front (north) of the main tenant building.

The interior of the Property buildings consist of offices, labs, storage rooms, and equipment rooms. The main building of each property was constructed with asbestos floor tiles, brick walls, and flat panel ceiling tiles. Individual offices and conferences rooms varied between carpet and asbestos floor tiles. Interior finishes also varied from office to office. However, the interior walls were in general either painted or textured wallboard and/or wood paneling. Office ceilings

were suspended ceiling panels. Laboratories generally consisted of work areas with cabinets and countertops, ventilation hoods, chemical storage areas, floor sinks, and drains. Equipment rooms and storage rooms appeared to be well organized and maintained.

In addition to the main building, the properties had individual greenhouses with gravel or concrete floors. Each property also had a shop building used for maintenance repair and equipment storage. The shop buildings were constructed in general with metal siding, metal roofs, and concrete floors. Mobile trailers were also used on the properties for additional storage, work space, and offices. There were also several storage sheds used to store equipment, chemicals, and supplies.

2.3 PROPERTY UTILITIES

The onsite utilities consisted of the following.

- Water – COP
- Electrical – Salt River Project
- Sanitary Sewer – COP
- Refuse – Waste Management
- Gas – Southwest Gas

2.4 ADJOINING PROPERTY USE

As part of ITSI's site assessment, a visual reconnaissance of the facilities adjoining the Properties were conducted. Major roadways/properties which adjoin Property 4331, Property 4135, and Property 4125 are as follows.

4331 East Broadway Road

- North - Broadway Road followed by office complexes
- Northwest - Broadway Road followed by office complexes
- West - Vacant lot followed by Property 4135
- Southwest - Vacant lot followed by agricultural research land
- South - Agricultural research land
- Southeast - Agricultural research land
- East - Maricopa County Extension Services facility
- Northeast - Broadway Road followed by office complexes

4135 East Broadway Road*

- North - Arizona Cotton Grower's Association followed by Broadway Road
- Northwest - Office complex followed by Broadway Road
- West - Research field on Property 4135 followed by an office complex
- Southwest - Research field on Property 4135 followed by an office complex
- South - Office complex
- Southeast - Agricultural research land
- East - Vacant lot followed by Property 4331
- Northeast - Vacant lot followed by Broadway Road

**Property 4125 is located within the boundaries of Property 4135.*

ITSI viewed the adjoining properties from the Properties and/or public roadways for visual evidence of significant chemical storage, improper waste disposal, or other indications of adverse environmental conditions. No visual evidence of improper waste disposal or other indications of adverse environmental conditions were observed on adjoining properties by ITSI.

2.5 AREA USE

General property use within the 1/2-mile project area consisted of office complexes and agricultural research land. ITSI viewed the 1/2-mile project area from public roadways for visual evidence of significant chemical storage, improper waste disposal, or other indications of adverse environmental conditions. No visual evidence of improper waste disposal or other indications of adverse environmental conditions were observed by ITSI.

3.0 SITE RECONNAISSANCE AND INTERVIEWS

The purpose of ITSI's site reconnaissance was to obtain visual information that would indicate the presence of a recognized environmental condition. Observations were documented and pertinent features and/or areas of concern were photographed. Photographic documentation from the site reconnaissance is provided in Appendix A.

3.1 EXTERIOR OBSERVATIONS

A summary of each exterior area assessed is presented below.

3.1.1 Storage Tanks

During ITSI's site reconnaissance, no visual evidence of underground storage tanks (USTs) were observed on the Properties (e.g., fill ports, vent pipes, or dispensers). However, one aboveground storage tank (AST) was observed at Property 4331. The AST, a water tower, was located on the western side of Building 46 (Figure 3). It holds approximately 3,000 gallons and is currently empty. In addition, four corrugated steel tanks used for evaporation studies were identified on the 1971 and 1975 aerial photographs at Property 4331. Also, a large corrugated steel tank located near the four tanks is present on the 1975, 1978, and 1982 aerial photographs. Mr. Martin stated that the four corrugated steel tanks have been removed and the larger tank had been filled in with gravel.

ITSI observed a 3,000-gallon carbon dioxide (CO₂) storage tank at Property 4135 along the eastern boundary of the agricultural field and near the maintenance shop of Property 4125. The CO₂ storage tank is for one of the greenhouses located along the southern property boundary. In addition, ITSI observed a self-contained 320-gallon diesel fuel auxiliary tank on a backup generator located near the bulk chemical storage area. The generator is used to provide power in the event of an emergency (Figure 4).

3.1.2 Hazardous/Regulated Materials Use, Storage and Disposal

ITSI visually assessed the exterior of the Properties for the storage, use or disposal of hazardous and/or other regulated materials. Less than 1 kilogram of hazardous waste is allowed by the

facility's Resource Conservation and Recovery Act (RCRA) conditionally exempt generator status. This amount is stored at Property 4135 in cabinet No. B5 of the bulk chemical storage area (Figure 4).

3.1.3 Solid Waste Storage and Disposal

Solid waste dumpsters were observed on Property 4331 and Property 4135. The dumpsters were marked as belonging to Waste Management, Inc. Another solid waste dumpster was observed at Property 4125 and marked as belonging to Summit Waste Systems. Recycling dumpsters belonging to ABCO Recycling Services (cardboard only) and Weyerhaeuser Recycling were also observed at Property 4135.

3.1.4 Chemical Use and Storage

Chemicals including fertilizers and herbicides were applied to the agricultural research fields as part of research activities at the properties. The chemicals were applied in a controlled manner and ITSI did not observe any area where chemicals were displaced. ITSI observed minor amounts of fertilizers, herbicides, paint, roofing chemicals, solvents, and oil stored in cabinets and lockers on the properties. No staining was observed.

3.1.5 Electrical Transformers

Electrical distribution transformers tend to be of two types: pole-mounted or pad-mounted. Most pole- and pad-mounted transformers are owned and/or maintained by the local power company. Some older electrical distribution transformers may contain a dielectric fluid consisting of polychlorinated biphenyls (PCBs), which are regulated by the United States Environmental Protection Agency (EPA). During the onsite assessment, two pad-mounted transformers were observed at Property 4331, one pad-mounted transformer at Property 4135, and two pad-mounted transformers at Property 4125 (Figures 3 and 4). The pad-mounted transformers are the property of the Salt River Project and were in good condition and showed no indication of spills or leaks, with the exception of minor staining on the concrete pad of the transformer located at Property 4135. However, a notice on the transformer stated that it had been recently tested and does not contain PCBs.

3.1.6 Wells

During the site reconnaissance, ITSI observed one water supply well on Property 4331. The water supply well originally supplied water to the property. Although the well is no longer used, the Arizona Department of Environmental Quality (ADEQ) collects groundwater samples annually from the former water supply well. Specific details about the annual sampling event were not provided.

3.1.7 Dry Wells/Storm Drains

ITSI was provided with facility maps noting the locations of what are believed to be three dry wells at Property 4331 and one dry well at Property 4135. The locations of the suspected dry wells were verified during the site reconnaissance. The two suspected dry wells located along the western property boundary of Property 4331 are covered. The dry well to the north is covered with approximately 6 inches of rock and gravel. The dry well to the south is sealed with asphalt. The third suspected dry well is located east of Building 46 and is used to collect rainwater run off from parking lots and buildings. The suspected dry well on Property 4135 is located behind Building 3 and is used to collect excess water from the adjacent greenhouses. The suspected dry wells located on both properties have not been registered with the ADEQ. ITSI recommends that if the suspected dry wells meet the ADEQ criteria for dry wells (see Section 5.2.7) that they be registered with the ADEQ and that they be maintained in accordance with the rules and regulations set forth by ADEQ. There are no additional dry wells registered by the ADEQ for the Properties.

3.1.8 Sumps

Two sumps were observed on the exterior portion of Property 4135 and one sump at Property 4331. The first was a shallow, concrete-lined sump located in the Chemical Storage Area near Buildings 68 and 69 at Property 4135 under the emergency eye wash station and safety shower. The second sump is a sand trap located behind Greenhouse M-4 and is connected to the sanitary sewer. Floor drains from the greenhouses, the mechanical room, and the cooling towers drain into the sand trap. According to Mr. Martin, residual sediments from the sand trap are removed periodically. At Property 4331, a sand trap was observed near the water supply well.

3.1.9 Pits/Ponds/Lagoons/ Pools of Liquid

No pits/ponds/lagoons or pools of liquid were observed on the Properties.

3.1.10 Surface Staining/Corrosion/Unusual Odors

ITSI did not observe any specific *de minimis* conditions on the Properties.

3.1.11 Stressed Vegetation

ITSI did not observe any areas of stressed vegetation on the Properties.

3.1.12 Wastewater

ITSI did not observe any processes that generate industrial wastewater on the Property. The bathrooms located within the buildings are connected to the COP sanitary sewer system. However, the shop (Building 28) and the mobile trailers located on Property 4125 are connected to a septic system located under on of the mobile trailers. The exact location of the septic system is unknown. At least one bathroom in the shop is connected to the septic system.

3.1.13 Storm Water

Storm water from Property 4331 is directed to a suspected dry well in a landscaped retention area located east of Building 46. Storm water on Property 4135 and Property 4125 is directed offsite via surface sheet flow.

3.2 INTERIOR OBSERVATIONS

A summary of each interior area assessed is presented below.

3.2.1 Storage Tanks

During ITSI's reconnaissance, no evidence of interior USTs and/or ASTs were observed on the Properties. ITSI did observe several laboratories and maintenance shops at Property 4331 and Property 4135 that used compressed gas cylinders and dewers. No improper usage was observed.

3.2.2 Hazardous Waste/Regulated Waste

ITSI visually assessed the interior of the Properties' buildings/structures for the storage or disposal of hazardous or regulated wastes. No evidence of hazardous or regulated wastes was

observed. However, low-grade radioactive source material is stored in small quantities at Property 4331 and Property 4135 (Figure 3 and 4). The material is properly stored and contained in accordance with the Nuclear Radiation Commission (NRC).

3.2.3 Chemical Use and Storage

ITSI observed a number of areas where chemicals (herbicides, fertilizers, laboratory chemicals, etc.) are stored on the properties. The chemicals were stored in appropriate chemical storage cabinets and properly labeled to prevent spills. ITSI was provided with a list of chemicals used at Property 4331 and Property 4135. The lists are presented as Table 1 and Table 2.

3.2.4 Utility Areas, Heating, Ventilating and Air Conditioning (HVAC) System, Boilers, Heaters, Transformers

ITSI observed mechanical rooms at Properties 4331 and 4135. Mechanical rooms 133 (former boiler room) and 134 located in the main building at Property 4331 have undergone an asbestos abatement. There is also a boiler room in the main building of Property 4135 that is still actively used. No improper conditions were observed.

Outside, along the eastern portion of the main building and near the boiler room at Property 4135, there are several air handlers, air conditioning units, and a self-contained 320-gallon diesel powered auxiliary generator. Individual buildings and greenhouses for Property 4331 have separate heating and cooling units. Heating and cooling at Property 4135 for Building 1, attached greenhouses, head house, and Bio-Control are on one central system.

3.2.5 Floor Drains/Sumps

Floor drains were present in a majority of labs, equipment rooms/boiler rooms, greenhouses, and individual buildings. The floor drains observed by ITSI are connected to the COP sanitary sewer system after passing through a sand trap. There is a sump in Building 46, the Hydraulics Laboratory of Property 4331. The concrete-lined sump was used for water only. Mr. Martin also stated that there used to be a sump located in Room 114 of the main building at Property 4331. However, that sump was filled in with concrete and that portion of the building was remodeled for office space and Room 114.

3.2.6 Stains/Corrosion

ITSI did not observe any staining or corrosion within the building interior.

3.3 INTERVIEWS

ITSI obtained site information from the following individuals with specific knowledge regarding the Properties' history and uses.

3.3.1 Current Owner/Occupants

ITSI was provided with information by Mr. Steele and Mr. Martin during the September 30, 2003 site reconnaissance of Properties 4331 and 4135. ITSI was also provided information by Mr. Steele and Mr. Martin during the November 12, 2003 site reconnaissance to Property 4125, as well as Mr. Stewart of APHIS.

3.3.2 Previous Owners/Occupants

ITSI was not provided with any previous owner information.

3.4 ASBESTOS CONTAINING MATERIALS

Under Occupational Safety and Health Administration (OSHA) regulations in 29 CFR 1926.1101, enacted in October 1995, building material in structures built prior to 1981 is assumed to contain asbestos until proven otherwise. As such, these materials may not be disturbed for even daily maintenance activities until they are proven to not contain asbestos. Property 4331 was constructed in 1958 and Properties 4135 and 4125 were constructed in 1971. Therefore, the Properties could potentially contain asbestos. ITSI did not collect any building materials for analysis of asbestos as part of the current scope of work. However, ITSI was provided with information regarding an Asbestos Abatement Project at Property 4331. See section 4.12 for more information.

3.5 LEAD BASED PAINT

Lead-based paint was in use up to the late 1970s. As the Properties were constructed in the early 1970s, lead-based paint potentially could have been used at the Properties. ITSI did not collect any paint samples for analysis of lead concentrations as part of the current scope of work. However, during the site reconnaissance at Property 4331, it was mentioned that the water pipes

of the Main Building were tested for lead approximately 15 years ago. The test results indicated that no lead paint was present.

4.0 PAST USE(S) OF PROPERTY

The Properties' history and land use were evaluated from information provided by the USDA as well as library research relating to the Properties' addresses, interviews with the Properties' current owners/occupants, local agencies, historical aerial photographs, and topographical maps (as available). ITSI has attempted to identify obvious uses of the Properties back to the first developed use of each property or 1940, whichever is earlier. This historical information is documented in the following subsections.

4.1 PREVIOUS PROPERTY USES

Based upon the above referenced sources, Property 4331 was constructed in 1958 and Property 4135 and Property 4125 were constructed in 1971. Additional greenhouses and buildings have been added to the Properties, and the interior portions of the buildings have been remodeled several times. However, the Properties are essentially the same as when they were first developed.

4.2 CITY DIRECTORY REVIEW

ITSI reviewed historical city directories for the Properties' addresses/locations at the Phoenix Public Library. City directories back to 1960 were reviewed for possible information regarding occupancy. The following table presents a summary of ITSI's findings for the Properties addresses of 4331 East Broadway Road, 4135 East Broadway Road, and 4125 East Broadway Road.

Year	4331 East Broadway Road	4135 East Broadway Road	4125 East Broadway Road
2002	Not Listed	Agrcltr Dept Insc	Bureau Land Mgmt
2000	Rsrch & Dev Rsrch	Cotton Western Cotton	Not Listed
1995	US Water Conservation Lab	US AG W Cotton Research	Not Listed
1990	US Ag Water Conservation Lab	US Ag Cotton Research	US Ag A&L Pink Bollworm (2)
1985	US Water Conservation Lab	US Cotton Research Lab	US Pink Bollworm Rearing
1980	US Agri Water Conservation Lab	US Cotton Research Lab	US Agri Bollworm Lab, US Ag Plant Bollworm, US Agri Bollworm Lab

Year	4331 East Broadway Road	4135 East Broadway Road	4125 East Broadway Road
1975	US Agri Administrative, US Agri Water Conservation	US Agri Research Service, US Cotton Research	US Agri Bollworm Lab, US Pink Bollworm, US Agri Bollworm Lab
1974, 1973	US Agri Administrative, US Agri Water Conservation	US Agri Research SVC, US Cotton Research	US Agri Bollworm Lab, US Pink Bollworm, US Agri Bollworm Lab
1972	US Management Service, US Water Conservation	US Cotton Research, US Western Cotton Lab	US Plant Protection, US Pink Bollworm, US Plant Protection
1971	US Govt Agri Dept State office, US Govt Mgt Service Division, US Govt Water Conservation	US Govt Western Cotton Lab	No Listing
1970	US Southern Admin, US Govt Water Conservation	No Listing	US Ag Sterile Bollworm
1969	US Southern Admin, US Govt Water Conservation	No Listing	No Listing
1968, 1967, 1966	US Govt Water Conservation	No Listing	No Listing
1965	No Listing	No Listing	No Listing
1960	No Listing	No Listing	No Listing

4.3 TOPOGRAPHIC MAP REVIEW

ITSI reviewed the USGS 7.5-minute series topographic map "Tempe, Arizona", 1982. This map provides little specific information related to the Properties. However, the following items were noted.

The Properties

Property 4331 has approximately six buildings, Property 4135 has approximately six buildings, and Property 4125 has two buildings.

Adjoining Properties

Broadway Road is shown bounding the north side of the Property 4331 and is just north of Property 4135 and Property 4125. There are several buildings across Broadway Road to the north. There is a residential neighborhood located northeast of Property 4331 on the north side of Broadway Road. The property to the east of Property 4331 has one or two buildings, and the subsequent properties appear to be vacant. The properties to the south of Property 4331,

Property 4135, and Property 4125 appear to be vacant. The property located between Property 4331 and Property 4135 appears to be developed and has approximately nine buildings. The properties immediately to the north and west of Property 4135 and Property 4125 appear to have a few small buildings.

4.4 AERIAL PHOTOGRAPHIC REVIEW

Recent and historical aerial photographs from the COP, Engineering and Architectural Services Department (1961, 1971, 1975, 1978, 1982, 1986, 1991, 1995, 1999, and 2002) and Rupp Aerial Photography (1940, 1949, 1954, and 1958) were reviewed as part of the assessment. The review was conducted to evaluate past uses and characteristics of the Properties as well as the adjoining properties. Aerial photographs for Property 4331 and Property 4135 are presented in Appendix B. Since Property 4125 is on Property 4135, separate aerial photographs are not provided. The date and a brief description of each photograph are presented below.

1940, 1949, 1954, and 1958 Aerial Photographs

Properties 4331, 4135, and 4125

The Properties appear to be agricultural.

Adjoining Properties

Adjoining properties are undeveloped and/or agricultural.

1961 Aerial Photograph

Property 4331

Property 4331 is rectangular in shape with two main entrances off of Broadway Road to the south. The west entrance leads to a parking area in front of the Main Building and a driveway that runs along most of the western property boundary and ends at Building 43. The east entrance leads to the parking area in front and one along the east side of the Main Building. There is an additional parking area on the south side of the Main Building apparently used for work vehicles. There are several buildings located on the Property including the Main Building and Buildings 42, 43, 45, and 46. There is a rectangular-shaped agricultural research field located on the Property along the eastern boundary. It extends to the southern portion of the Property, where there is an area that is a vacant field.

Properties 4135 and 4125

The Properties are undeveloped and/or agricultural.

Adjoining Properties

Adjoining properties are mostly undeveloped and/or agricultural. However, there is at least one building, a driveway, and an agricultural research field located on the property between Property 4331 and Property 4135. In addition, there is a building and a parking lot located on a small parcel between Broadway Road and the northeast corner of Property 4135.

1971 Aerial Photograph

Property 4331

There are several new buildings present on the Property. Building 46 is complete. Buildings 42 and 43 have been connected. Greenhouse 44, Building 47, Building 60, and several smaller buildings are present on the Property. The research field that previously extended to Broadway Road along the eastern property boundary is now desert landscaped. The frontage area along Broadway Road is also desert landscaped. An agricultural research field is located on the southern portion of the property. In addition, there are four circular tanks located east of Building 48. Mr. Martin identified the tanks as former corrugated steel evaporation tanks. He also stated that the tanks have been removed.

Property 4135

Property 4135 is rectangular in shape with a triangular-shaped research field located on the western portion of the Property. The Main Building (Building 1), Buildings 2, 3, 27, and some additional greenhouses are present on the Property. There is a paved parking lot located on the north, east, and west sides of the Main Building. Access to Property 4135 is via a driveway south of Broadway Road along the eastern property boundary. The main entrance is on the northeastern corner of the Property, with two additional entrances south of the main entrance along the eastern property boundary. There appears to be additional parking areas for work vehicles located on the south side of the Main Building.

Property 4125

One rectangular-shaped building is present on Property 4125. The rest of the Property is undeveloped.

Adjoining Properties

The properties to the south and east of Property 4331 and south of Property 4135 are agricultural. The property between Property 4331 and Property 4135 has several buildings and research fields. The property to the northeast of Property 4135 and south of Broadway Road remains unchanged. However, the property adjacent to Property 4135 to the north and just south of Broadway Road has a large warehouse with additional rectangular storage buildings located on the west side of the building. This property appears to be connected to Property 4135 through the parking lot of the warehouse and a driveway on the northern property boundary. The property to the west of Property 4135 is vacant with the exception of one building located along Broadway Road.

1975 Aerial Photographs

Property 4331

No significant changes were observed from the previous photograph.

Property 4135

Several new buildings are present in the southern portion of the Property. These buildings include Buildings 30, 32, 39, several small greenhouses, and an addition to Building 3.

Property 4125

There are four additional buildings located on Property 4125. Two mobile trailers are located just south of the original building. In addition, there are two buildings on the far south, the shop and Building 28, which appear to be connected. There appears to be a small amount of material storage around the Property buildings.

Adjoining Properties

The adjoining properties are generally unchanged with the exception of the properties located north and east of Property 4331. To the east of Property 4331 there is a large building and associated parking lot. To the north of Property 4331 there appears to be several new office complexes.

1978 Aerial Photograph

Property 4331

The Property appears unchanged with the exception of four new greenhouses located adjacent to the agricultural research field.

Property 4135

The Property appears unchanged with the exception of one new building, Building 31.

Property 4125

There is one new mobile trailer located on the Property, and the shop appears to have had an addition to the northern portion of the building. The amount of material storage located on the Property appears to have doubled.

Adjoining Properties

The adjoining properties are generally unchanged.

1982 Aerial Photograph

Properties 4331 and 4135

The Properties appear unchanged.

Property 4125

There is additional mobile trailer located on the Property, and a walk-in cooler is located immediately to the south of the original building.

Adjoining Properties

The adjoining properties are generally unchanged.

1986 Aerial Photograph

Property 4331

There is a new building, Building 57, located in the approximate location of the former corrugated steel evaporation tanks. Another new building, Building 59, is located near the four smaller greenhouses and adjacent to the agricultural field.

Properties 4135 and 4125

The Properties appear unchanged

Adjoining Properties

The adjoining properties are generally unchanged.

1991 Aerial Photograph

Property 4331

The large tank appears to be gone and there is a new greenhouse, Greenhouse 62, located in the approximate location of the large tank.

Property 4135

There is a new building, Building 63, the Equipment Shed, located on the Property. In addition, there appear to be several new smaller greenhouses located south of the new building and near the greenhouses associated with Building 3.

Property 4125

The Property appears unchanged.

Adjoining Properties

The adjoining properties are generally unchanged. However, a large office complex with several buildings is on the property the west of Property 4135.

1995 Aerial Photograph

Property 4331

There is a new building, Building 61, and the walkways appear to be more defined in the central portion of the Property.

Properties 4135 and 4125

The Properties appear unchanged.

Adjoining Properties

The property between Property 4331 and Property 4135 is undeveloped.

1999 Aerial Photograph

Properties 4331, 4135 and 4125

The Properties appear unchanged.

Adjoining Properties

The adjoining properties appear unchanged.

2002 Aerial Photograph

Properties 4331, 4135 and 4125

The Properties appear unchanged.

Adjoining Properties

The property directly to the north of Property 4125 and 4135 is vacant. All previous buildings have been removed. In addition, the property to the south of Property 4135 has been developed with an office complex, although it is not shown on the 2002 Aerial Photograph (Appendix B).

4.5 SANBORN MAP REVIEW

ITSI requested Sanborn Fire Insurance Maps from All Lands. According to All Lands, no Sanborn coverage exists for the project area.

4.6 HISTORICAL CHAIN-OF-TITLE

A 50-Year Chain-of-Title for the Properties was not requested based on the requirements of the Scope of Services.

4.7 FIRE DEPARTMENT

On October 9, 2003, ITSI requested environmental information related to Property 4331 and 4135 from the COP Fire Department (CPFD), Urban Services Division. An additional request for environmental information related to Property 4125 was submitted on November 12, 2003. The following documents were reviewed by ITSI and are included in Appendix C.

4135 East Broadway Road

- CPFD Occupancy Activity Reports (1988, 1985, and 1984)
- CPFD Hazardous Materials Permit Application (1988, 1986, 1984, 1982, and 1971)
- Maricopa County Department of Health Services – Burning Permit for Pest Prevention (1985)
- CPFD Occupancy Activity Report Burn Site Approval (1985)
- CPFD Fire Code Violation Letter dated January 13, 1978, for improper storage of flammable liquids
- CPFD Hazardous Materials Permit, Permit No. 15207, February 28, 1977
- CPFD Report of Property Identification, Responsible Party Information (1975)

4331 East Broadway Road

- CPFD Occupancy Activity Report (1987, 1985, 1984, and 1982)
- CPFD Petition of Appeal to the Fire Marshal (1987)
- CPFD Hazardous Materials Permit Application (1987, 1985, and 1982)

4125 East Broadway Road

- CPFD Hazardous Materials Survey (1986)
- CPFD Hazardous Materials Permit Application (1985)
- CPFD Occupancy Activity Report (1985)
- CPFD Hazardous Materials Permit and Application (1977 and 1975)

4.8 COUNTY TAX ASSESSOR AND RECORDERS OFFICE

Maricopa County Tax Assessor's records were reviewed by ITSI. The records were accessed from the Maricopa County Tax Assessors website. No information was found concerning any environmental concerns associated with the Properties.

4.9 PLANNING AND ZONING DEPARTMENT

According to the COP Development Services Department (DSD), the properties are currently zoned S-1, Ranch or Farm Residence District, which indicates single-family dwelling, raising of a field, tree or brush crops, public or parochial school, church, stand for onsite sales of farm products, or aviaries. No information was found concerning any environmental concerns associated with the Properties.

4.10 BUILDING PERMITS AND RECORDS

ITSI reviewed building permits and records for the Properties at the COP DSD. The following documents were reviewed.

4331 East Broadway Road

- Commercial Remodel (1997-1999)
- Application for 100 amp overhead temporary power pole remodel (8/10/1995)
- Certificate of Special Inspection for Structural (1994)
- Two heat pumps installed (9/1971)
- Electrical Box Request (10/1960)

4135 East Broadway Road

- Construction permit for replacing six air conditioning units (1986)
- Permits for greenhouses (since 1970)

4125 East Broadway Road

- Construction permit to relocate a water meter due to construction (1989)
- Construction permit involving a gas line (1979)
- Inspectors Notice for electrical (1971)
- Construction permit for electrical (1971)
- Construction permit for installation of two roof heat pumps (1971)
- Application for plumbing permit (1970)

4.11 CITY WATER DEPARTMENT

According to a representative of the COP Water Department, water to the Properties is supplied by the COP. The source of the COP's water is the Salt, Verde, and Colorado Rivers and some groundwater. The COP representative was unaware of any environmental concerns associated with drinking water supplied to the Properties.

4.12 PREVIOUS INVESTIGATIONS REVIEW

ITSI was provided with the following information regarding previous investigations at Property 4331. A list of the documents that ITSI reviewed and a summary of each report is presented below and are presented in Appendix D.

- *Asset Environmental Services, Inc. (Asset), 1997, Excavation Activities of Used Oil Area, USDA Facility, Analytical Laboratory Test Results, April 30* – Asset performed excavation activities in the area of petroleum-contaminated soil near the fuel storage area. Confirmation samples were collected to verify complete removal of petroleum-contaminated soils. Contaminated soil was removed from the site and the excavation was backfilled.
- *Asset, 1996, Analytical Laboratory Test Results (facsimile transmission), October 24* – Summarizes the laboratory results from a soil sample collected on September 11, 1996.
- *IHI Environmental (IHI), 1996, Soil Analytical Results, U.S. Water Conservation Laboratory, Phoenix, Arizona, July 31* – IHI collected soil samples near the fuel storage building to determine if remedial actions were warranted. Samples were analyzed for total petroleum hydrocarbons (TPH). Sample USWC-7-10-1 [ground surface to one foot below ground surface (bgs)] had a result of 9,200 parts per million (ppm) of TPH. Remedial options included excavation and transport/disposal or to leave soils in place.

- *Western Technologies, Inc., 1994, US Water Conservation Laboratory – Building No. 1, Asbestos Abatement Project* - EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) Notification Asbestos Renovation and/or Demolition Activities in Arizona, ADEQ Special Waste Manifests, and figures showing areas to be renovated.
- *Tech/Ops Landauer, Inc., 1990, Radon Monitoring Report, U.S. Water Lab and Western Cotton Research Lab* - Summarizes Radon monitoring results.

5.0 RECORDS REVIEW

The following section is based on public information obtained from various federal, state, and local agencies that maintain environmental regulatory databases. These databases contain information about facilities or sites that have reported incidents involving hazardous materials or inappropriate use, storage, or transportation of such materials. Information was gathered by ITSI personnel and by professional data search service All Lands of Goodyear, Arizona. ITSI personnel reviewed the information that appeared on these lists. In this case, the latitude and longitude of the Properties and the Properties' addresses were used to provide a controlled area for the data search. All references to groundwater flow direction are based on an assumed northwestern direction. A discussion of the reviewed information is presented in the following sections. The data provided by All Lands are presented in Appendix E.

5.1 FEDERAL AGENCY DATABASES/RECORDS

Numerous federal regulatory databases were obtained by All Lands and the results were examined by ITSI. A summary of these reports and the radius from the Properties that they cover are presented below.

5.1.1 National Priorities List and Proposed National Priorities List

The National Priorities List (NPL), or Superfund sites list, is the EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority investigations and, as appropriate, remedial actions under the Superfund Program. The proposed NPL includes sites under review for inclusion on the NPL. All Lands' last review of the database July 2003 revealed no NPL facilities within a 1-mile search radius of the Properties.

5.1.2 Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)

The federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) legislation was authorized to finance the cleanup of abandoned disposal sites throughout the United States. All Lands' last review of the database on July 2003 indicated one

site, Motorola Inc. Raymond St Pit at 4121 East Raymond Street, which is relative to the Properties within a 1-mile radius.

5.1.3 CERCLIS - No Further Remedial Action Planned (NFRAP)

As of February 1995, CERCLIS sites designated NFRAP have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. The EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

All Lands's last review of the CERCLIS/NFRAP list in July 2003 revealed that there are two CERCLIS/NFRAP sites relative to the Property and within a 1/2-mile radius.

- Arizona Barrel 7 Can, 4225 E. Broadway Road
- Motorola Inc. Raymond St Pit, 4121 E. Raymond Street

5.1.4 Corrective Action Sites (CORRACTS) Treatment, Storage & Disposal Facilities (TSD)

The EPA's RCRA program maintains a compilation of reporting facilities that receive, transport, store, or dispose of hazardous waste. All Lands' last review of the CORRACTS TSD list dated July 2003 indicated one facility, Safety Kleen Corp. at 4401 East University, which is relative to the Properties within a mile radius.

5.1.5 Treatment, Storage & Disposal Facilities (TSD)

The EPA's RCRA program maintains a compilation of reporting facilities that receive, transport, store, or dispose of hazardous waste. All Lands' last review of the TSD list dated July 2003 indicated no information relative to the Properties within a 1/2-mile radius.

5.1.6 RCRA Generators

The RCRA database, maintained by the EPA, lists facilities that have notified the EPA of hazardous waste activity. The notifiers may engage in the generation, transportation, treatment, storage, and/or disposal of hazardous wastes.

There are various categories of hazardous waste generators.

1. Generators of no more than 100 kilograms per month (kg/mo), known as conditionally-exempt small-quantity generators (CEG).
2. 100 to 1,000 kg/mo, known as small-quantity generators (SQG).
3. Generators of 1,000 kg or more in a month, known as large-quantity generators (LQG).
4. Deactivated generators (DAG).
5. Deactivated transporter of hazardous waste (DAT).
6. Used oil activity (OIL).

All Lands' last review of the RCRA database dated July 2003 revealed that there are 14 sites including the Properties and relative to the Properties within a 1/4-mile radius.

- USDA ARS Western Cotton Research Lab, **Property 4135** (CEG)
- USDA Water Conservation Lab, **Property 4331** (CEG)
- USDA APHIS PPQ MD/Methods Lab, **Property 4125** (DAG)
- American Chem Tech, Inc., 4028 East Broadway Road (DAG)
- Gestetner Corp., 4100 East Broadway Road (SQG)
- United Rentals Highway Tech, Inc./Sunline Markings, 4200 East Broadway Road (CEG)
- FTI/Flow Technology, Inc., 4250 East Broadway Road (SQG)
- ASM America, 4302 East Broadway Road (DAG)
- CCL Label Phoenix/Graphic Resources, Inc., 4110 East Wood Street (DAG)
- Arizona Agrochemical Co., 4130 East Wood Street (DAG/DAT)
- White Microelectronics, 4246 East Wood Street (DAG)
- Naumann Material Handling, Inc., 4336 South 43rd Place (SQG)
- Triumph Air Repair, Inc., 4010 South 43rd Place (LQG)
- Meadow Valley Hot Plant, 4411 South 40th Street (OIL)

ITSI found no record of violations for Properties 4331, 4135, and 4125.

5.1.7 Emergency Response Notification System (ERNS) List

The ERNS List is a national database used to collect information on reported releases of oil and hazardous substances. This database is provided by EPA through the Right of Know Net OMB Watch and Unison Institute from 1983 to July 2003, and it is checked for incidents located within a 1/4-mile search radius of the subject property. All Lands indicated two sites relative to the Properties.

- 4001 East Broadway Road, Suite 11, Medical Waste
- 4101 East Wood Street, Hydrochloric Acid

5.1.8 Hazardous Materials Incidents

The ADEQ Response Team documents spills and incidents involving hazardous materials that are reported to the unit. This database is from the ADEQ Emergency Response Log from 1984 through June 2001 and is checked for hazardous material incidents located within a 1/4-mile search radius for the Properties. All Lands indicated seven sites relative to the Properties.

- ASM America, 4135 East Wood Street
- Space Age Delivery Service, 4032 East Broadway Road
- Laidlaw Waste Systems, 40th Street and Broadway Road
- Pure Solutions, 4401 East Wood Street
- Unknown, 40th Street and Broadway Road
- HMSS, Inc., 4001 East Broadway Road
- Pure Solutions, Inc., 4101 East Wood Street

5.1.9 Superfund Amendments and Reauthorization Act (SARA) Title III Extremely Hazardous Substance Sites

Under the Community Right-To-Know portion of SARA, facilities which must prepare, or have available, material safety data sheets (MSDS) and must submit either copies of the MSDS or a list of the chemical to the State Emergency Response Commission. This database is from the SARA Title III List dated July 2003 and was searched to identify all SARA sites within a 1/4-mile search radius of the Properties. All Lands indicated five sites relative to the Properties.

- Naumann Hobbs Material Handling, 4336-4015 South 43rd Place
- Triumph Air Repair, 4010 South 43rd Place
- Ionics Pure Solutions, 4101 East Wood Street
- White Microelectronics, 4346 East Wood Street

- ASM America/Broadway, 4302 East Broadway

5.2 STATE AGENCY DATABASES/RECORDS

Numerous State regulatory databases were obtained by All Lands and the results were examined by ITSI. A summary of these reports and the radius from the Properties that they cover are presented below.

5.2.1 Superfund Program List (SPL)

The SPL is representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. The SPL is comprised of 1) the Water Quality Assurance Revolving Fund (WQARF) Registry Sites, 2) Potential WQARF Registry sites, 3) NPL sites, and 4) Department of Defense (DOD) sites requiring Superfund Program Section oversight.

The SPL list was last reviewed by All Lands on March 2003. A review of the list indicated one listing, Raymond Street/Raymond Street Area, within a 1/2-mile search radius of the Properties. This site is listed as pending a WQARF Preliminary Investigation (PI), either scheduled or in the process.

5.2.2 Water Quality Assurance Revolving Fund

The State of Arizona has established the WQARF program to perform investigations and conduct remedial action activities at sites that may have an actual or potential impact upon waters of the State caused by hazardous substances. The State of Arizona WQARF program is the equivalent to the federal Superfund program (CERCLA).

The ADEQ WQARF Registry List was last reviewed by All Lands in July 2003 to determine if the Properties lie within the boundaries or within 1 mile of a WQARF Registry site. A review of the list indicated no WQARF Registry sites within 1 mile of the Properties.

5.2.3 Landfills

The State of Arizona maintains listings of closed and permitted, operating landfills and solid waste dump sites. All Lands reviewed the database from the ADEQ Waste Programs Division,

Solid Waste Section Division, Solid Waste Section Directory of Arizona Active and Inactive Landfills dated May 1999, and they checked for active and inactive landfills. A review of the database revealed no landfills within a 1/2-mile radius of the Properties.

5.2.4 UST List

Under Subtitle I of the 1984 RCRA Amendments, owners of USTs that contained regulated substances were required to notify (register) the designated state agency of the existence of the tank(s) by May 1986. As the designated agency in Arizona, the ADEQ maintains a list of "registered USTs" in the state.

The UST list was last reviewed by All Lands in February 2003. A review of the list revealed five UST sites within a 1/4-mile radius of the Properties.

- Tanner Companies, 4302 South 40th Street
- Triumph Air Repair, 4010 South 43rd Place
- Foodmaker, Inc., 4239 South 43rd Place
- Naumann Material Handling, Inc., 4336 South 43rd Place
- Ionics Pure Solutions/M Caldwell, 4101 East Wood Street

5.2.5 LUST List

The ADEQ maintains an inventory of known or reported incidents involving leaking USTs (LUSTs). The LUST list was last reviewed by All Lands in February 2003. A review of the list revealed 11 LUST sites within a 1/2-mile search radius of the Properties.

- Circle K #1216, 3955 East Broadway Road
- Cotton Research Center, 4201 East Broadway Road
- Circle K #1100, 4646 South 40th Street
- Circle K/Polar Beverage, 3910 East Wier
- Kiewit Companies, 3888 East Broadway Road
- Kalil Bottling Co., 4045 South 38th Street
- Motorola Inc., Raymond Street, 4121 East Raymond Street
- Pepsi-Cola Bottling Company, 4242 East Raymond Street
- Sea Ray Boats, Inc., 4140 East Raymond Street
- W J Collum Roofing Co., Inc., 3928 East Anne Street
- ABCO Markets, Inc./American Prop., 4031 South 37th Street

5.2.6 ASTs

ADEQ does not maintain a list of registered ASTs. Permitting of ASTs in the State of Arizona is the responsibility of local municipalities (typically the fire department) or counties and is rarely maintained as a specific database.

5.2.7 Dry Well Registry

A dry well is a bored, drilled, or driven shaft or hole with its depth greater than its width. It is designed and constructed specifically for the disposal of storm water. A review of the July 2003 dry well registry revealed 28 dry wells within a 1/4-mile search radius of the Properties (Appendix E). No dry wells were shown as being registered to the Properties.

5.2.8 Groundwater Well Registry

The Arizona Department of Water Resources (ADWR) maintains a groundwater well registry. The ADWR Well Registry of November 2002 was reviewed by All Lands. The review indicated that there are 46 groundwater wells within a 10-acre search radius with no registered well listed for the Properties (Appendix E).

5.3 PHYSIOGRAPHIC SETTING

The following subsections present information regarding the general physiographic, geologic, and hydrogeologic conditions in the project area.

5.3.1 Surface Topography and Drainage

Based on the USGS 7.5-minute series topographic maps "Tempe, Ariz. Quadrangle," the Properties are approximately 1,130 feet above mean sea level. The surface topography of the project area is relatively flat.

5.3.2 Regional Geology

The Properties are located within the southern part of the East Salt River Valley Sub-basin of the Phoenix Active Management Area (Laney and Hahn, 1986). The Salt River Valley is a broad alluvial basin within the Basin and Range Physiographic Province of the United States (Wilson, 1962). The basin is almost completely surrounded by mountains composed primarily of granitic, metamorphic and volcanic rocks. The valley floor is underlain by unconsolidated to semi-

consolidated basin-fill sediments that are more than 10,000-feet thick in the central part of the basin. Depth to bedrock beneath the project area is estimated to be less than 500 feet (Laney and Hahn, 1986).

5.3.3 Regional Hydrogeology

According to All Lands' ADWR Well Report, the static depth to regional groundwater within the project area is reported to be between 40 and 90 feet bgs. Regional groundwater flow direction is estimated to be to the northeast. However, localized groundwater flow patterns and depths that differ from these conditions may exist due to the presence of heterogeneous subsurface conditions, local recharge factors and/or local groundwater pumping.

Groundwater beneath the project area is contained in an unconfined, highly permeable valley fill deposit of sand, gravel and cobbles (Laney and Han, 1986). The local aquifer is a part of the much larger Salt River Valley aquifer that underlies all of the Salt River Valley, including Phoenix and the surrounding cities. The uses of groundwater include drinking water, irrigation, industry and recreation.

5.3.4 Wetlands

ITSI's reconnaissance of the project area surrounding the Properties and our review of USGS topographic maps indicate that no wetlands conditions exist within 1/2 mile of the Properties. In addition, ITSI observed no wetlands conditions on the Properties.

6.0 SITE SAMPLING

No surface or subsurface exploration or chemical analyses were conducted as part of this Phase I ESA.

7.0 ENVIRONMENTAL PERMITS

Although a compliance audit was not conducted during the course of the Phase I ESA, the following environmental permits were identified at the Properties.

- Property 4331 and 4135 – RCRA CEG
- Property 4331, 4135, and 4125 – CPFD Hazardous Materials Permits

8.0 DEVIATIONS FROM ASTM STANDARD

This report was prepared in general accordance with and with no deviations to the scope and limitations of the ASTM Standard Practice E 1527-00 and the USDA ARS Scope of Services provided in the Notice to Proceed dated September 9, 2003.

9.0 FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

ITSI has performed a Phase I ESA in general conformance with the scope and limitations of the ASTM Standard Practice E 1527-00. The following sections present our findings and conclusions regarding *de minimis* conditions, historical recognized environmental conditions, and recognized environmental conditions identified at the Properties during the course of the Phase I ESA.

9.1 FINDINGS

The following findings are presented regarding recognized environmental conditions at the Properties.

9.1.1 *De minimis* Conditions

De minimis conditions are conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be subject to an enforcement action if brought to the attention of appropriate governmental agencies. These conditions may be areas that are addressed through general housekeeping practices. Based on ITSI's site reconnaissance, no specific *de minimis* conditions were observed. However, due to the large quantity of chemicals that are stored on the properties (herbicides, fertilizers, laboratory chemicals, etc.), ITSI recommends that all chemicals be kept in their original containers prior to use and properly stored to prevent any accidental spills. An accurate inventory of chemicals and wastes should be maintained as presented during ITSI's site reconnaissance.

9.1.2 Historical Recognized Environmental Conditions

The term "historical recognized environmental condition" means an environmental condition that, in the past, would have been considered a recognized environmental condition, but that currently may or may not be considered a recognized environmental condition. If a past release of any hazardous substances or petroleum products has occurred in connection with the property(ies) and has been remediated with such remediation accepted by the responsible regulatory agency, this condition will be considered an historical recognized environmental condition.

Based on ITSI's research conducted during the course of this Phase I ESA, an area of petroleum-contaminated soil was identified near the southwest corner of **Property 4331**, just north of the fuel storage building. The petroleum-contaminated soils were a result of minor releases from drums of waste oil stored near the fuel storage building. In 1997, Asset Environmental Services, Inc. excavated the contaminated soils and confirmed complete removal of petroleum-contaminated soil. The soil was removed from the site and the excavation backfilled using aggregate base course (ABC).

9.1.3 Recognized Environmental Conditions

The term "recognized environmental condition" means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products, even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be subject to an enforcement action if brought to the attention of appropriate governmental agencies.

ITSI's assessment has revealed evidence of recognized environmental conditions in connection with **Property 4331**, **Property 4135**, and **Property 4125**.

- **Property 4331** and **Property 4135** are listed as a RCRA CEG of hazardous waste. **Property 4125** is listed as a DAG on the RCRA facilities list. ITSI found no record of any violations for **Property 4331**, **Property 4135**, and **Property 4125**.
- During the site reconnaissance, ITSI observed one water supply on **Property 4331**. The water supply well originally supplied water to the Property. Although the well is no longer used, the ADEQ collects groundwater samples annually from the former water supply well. Specific details about the annual sampling event were not provided. However, the water supply well did not appear on the ADWR Well Report provided by All Lands.
- ITSI was provided with facility maps noting the locations of what are believed to be three dry wells at **Property 4331** and one dry well at **Property 4135**. The locations of the suspected dry wells were verified during the site reconnaissance. The suspected two dry wells located along the western property boundary of **Property 4331** are covered. The

dry well to the north is covered with approximately 6 inches of rock and gravel. The dry well to the south is sealed with asphalt. These wells are used to collect condensate from air conditioning units located in the adjacent buildings. The third suspected drywell is located in a lawn east of Building 46 and is used to collect rainwater run off from parking lots and buildings. The suspected dry well on **Property 4135** is located behind Building 3 and is used to collect excess water from the adjacent greenhouses. The suspected dry wells located on both properties have never been registered with the ADEQ.

- According to client-supplied information, a septic system was originally used at **Property 4331**. Presently, **Property 4331** is connected to the COP sanitary sewer system. The septic system has not been used since the early 1970s. The location of the septic system was identified during the site reconnaissance in the landscaped area in front of the main building. ITSI's review of the original building plans for **Property 4331** indicated the septic system included a septic tank with three cesspools.
- **Property 4331** and **Property 4135** each have a small agricultural research field for irrigation experiments and plant research. Chemicals including herbicides and fertilizers may have been applied to the fields during research activities.

9.2 CONCLUSIONS AND RECOMMENDATIONS

ITSI has performed a Phase I ESA of the United States Water Conservation Laboratory located at 4331 East Broadway Road (**Property 4331**), the Western Cotton Research Laboratory located at 4135 East Broadway Road (**Property 4135**), and the APHIS facility located at 4125 East Broadway Road (**Property 4125**) in Phoenix, Arizona. The following conclusions and recommendations are based on the ESA.

- None of the properties are located within the boundaries of any State or Federal Superfund Sites, and there are no UST or LUST sites that appear to be a threat to soil or groundwater beneath either of the properties.
- ITSI observed one water supply well at **Property 4331**. ITSI recommends that the water supply well be registered with ADWR if not already registered, or properly abandoned.
- ITSI identified three suspected dry wells at **Property 4331** and one suspected dry well at **Property 4135**. ITSI recommends that, if the suspected dry wells meet the criteria for dry wells, they be registered with the ADEQ and that they be maintained in accordance with the rules and regulations set forth by ADEQ. ITSI also recommends that a sample be collected from the suspected dry well located east of Building 46 because it receives run off from parking areas and could be a potential pathway to groundwater beneath the Property.
- ITSI identified a septic system at **Property 4331**. ITSI recommends that since the septic system is no longer used that it be properly closed and removed and soil samples collected in the vicinity of the tank.
- ITSI recommends that prior to demolition or land transfer the soil in the agricultural fields at **Property 4331** and **Property 4135** be tested for any chemicals including

herbicides and fertilizers that may have been applied over the years during research activities.

With the exception of the above recommendations, no further assessment and no additional work at the Properties is deemed necessary with respect to recognized environmental conditions.

Although not considered a recognized environmental condition, due to the age of the property buildings, some of the building materials, including the wall board, ceiling tiles, laboratory countertops, pipe insulation and roofing materials, may contain asbestos. Several reports from previous investigations provided by Mr. Steele indicated some areas of asbestos-containing building materials (ACBM) have been removed from **Property 4331**. In ITSI's estimation, other areas of ACBM exists at the properties and at the present are properly maintained.

However, prior to any demolition activities and/or building repair, ITSI recommends that samples be collected for asbestos and that proper management and abatement procedures be used. In addition, due to the age of the buildings, building materials such as wall boards that still have the original paint may also contain lead-based paint. ITSI recommends that a lead-based paint survey be completed prior to any disturbance of these media and especially before any building demolition.

10.0 REFERENCES

The following agencies, offices, reports, and publications were used as information sources in the preparation of this Phase I ESA.

10.1 AGENCIES AND OFFICES

Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, Arizona

Arizona Department of Water Resources
500 North 3rd Street
Phoenix, Arizona

City of Phoenix
Fire Prevention Department
150 S. 12th Street
1221 North Central Avenue
Phoenix, Arizona

City of Phoenix
Public Library
1221 North Central Avenue
Phoenix, Arizona

City of Phoenix
Development Services
200 West Washington Street
Phoenix, Arizona

10.2 REPORTS AND PUBLICATIONS

Laney, R.L. and Hahn, M.E., 1986. Hydrogeology of the Eastern Part of the Salt River Valley Area, Maricopa and Pinal Counties, Arizona, U.S. Geological Survey Water Resources Investigation Report, 86-4147, 4 sheets.

Wilson, E.D., 1962. A Resume of the Geology of Arizona, The Arizona Bureau of Mines, Bulletin 171.

11.0 LIMITATIONS

ITSI's services have been completed in agreement with our contracted understanding with the USDA. This study and report have been prepared on behalf of, and for the exclusive use of the USDA solely for use in an environmental assessment of the Properties. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without the prior written consent of ITSI and the USDA.

ITSI's site assessment was performed in general accordance with the ASTM E 1527-00 Standard of Practice. ITSI observed the degree of care and skill generally exercised by other consultants under similar circumstances and conditions. ITSI's findings and conclusions should not be considered as scientific certainties, but rather as our professional opinion concerning the significance of the limited data gathered during the course of the ESA. No other warranty, expressed or implied, is made. Specifically, ITSI does not, and cannot, represent that the Properties contain no hazardous material, petroleum products, or other latent condition beyond that observed by ITSI during its site assessment. Additional information regarding subsurface conditions can be obtained by traditional subsurface exploration techniques and the collection of soil and/or groundwater samples for chemical analysis. ITSI cannot render a more definitive opinion regarding the impact from onsite activities without conducting subsurface explorations and chemical analyzes of soil and groundwater samples obtained from the Properties. This report is also subject to the following specific limitations.

1. The observations described in this report were made under the conditions stated herein. The conditions presented in the report were based solely upon the services described herein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by the USDA.
2. ITSI has relied on certain information provided by federal, state, and local officials, and other parties referenced herein, and on information contained in the files of federal, state, and/or local agencies available to ITSI at the time of the site assessment. Although there may have been some degree of overlap in the information provided by these various

sources, ITSI did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this site assessment.

3. In the event that counsel or title examiner for the USDA obtains information on environmental or hazardous waste issues at the Properties not contained in this report, such information shall be brought to ITSI's attention forthwith. ITSI will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.
4. Observations were made of the Properties and/or structures on the Properties as indicated within this report. Where access to portions of the Properties or direct observation of structures on the Properties was unavailable or limited, ITSI renders no opinion as to the presence of hazardous materials or petroleum products, or to the presence of indirect evidence relating to hazardous material or petroleum products, in that portion of the Properties or structures. In addition, ITSI renders no opinion as to the presence of hazardous material or petroleum products, or to the presence of indirect evidence relating to hazardous material or petroleum products, where direct observation of the interior walls, floor, or ceiling of a structure on a Property was obstructed by objects or coverings on or over these surfaces.
5. Unless otherwise specified in this report, ITSI did not perform testing or analyses to determine the presence or concentration of asbestos, lead-based paint, or PCBs at the Properties or in the environment at the Properties.
6. The purpose of this report was to assess the physical characteristics of the Properties with respect to the presence in the environment of hazardous material or petroleum products. No specific attempt was made to check on the compliance of present or past owners or operators of the Properties with federal, state, or local laws and regulations, environmental or otherwise.
7. The focus of the evaluation of the Properties was to evaluate the Properties and recognize environmental conditions resulting from past or current uses of the Properties. As a result, this evaluation does not address the presence of the following conditions unless they were the express concerns of contacted personnel, report and literature authors, or the work scope.
 - Naturally occurring toxic or hazardous substances in the subsurface soils and water.
 - Toxicity of substances common in current habitable environments, such as stored household products, building materials, and consumables.
 - Contaminants or contaminant concentrations that are not a concern now, but may be under future regulatory standards.
 - Occupational health and safety.